

Appl. No. 10/681,639
Amendment dated April 12, 2007
Reply to Office Action

CLEAN COPY OF CLAIMS:

1. (Currently amended) A platform comprising one or more dry porous membranes for detecting at least one component in a low volume liquid sample, the membranes providing a membrane channel through which the liquid sample can flow by capillary action while reactions take place determinative of at least one component in the sample;

the platform formed with sample application means and having top and bottom layers with hydrophilic surfaces that enclose and position the membranes, each layer having a top and bottom layer surface formed so that the bottom surface of the top layer and the top surface of the bottom layer are in fixed face to face contact so that the layers enclose and hold the membranes in place and form a platform flow channel upstream of the membranes via inclusion of an indent in at least one of the hydrophilic surfaces, the platform flow channel is in fluid communication with the membranes to permit the liquid sample to flow in a continuous pathway from the sample application means to the distal end of the membranes.

2. (Currently amended) The platform according to claim 1 wherein the platform flow channel has an indent in the bottom surface of the top layer.

3 and 4 : Withdrawn

5. (Currently amended) The platform according to claim 1 further comprising a window in the top layer for observing the results of a reaction which takes place in the membrane.

6. (Currently amended) A device for the rapid and efficient detection of at least one component in a low volume liquid sample, the device containing a membrane in which reactions take place determinative of the presence of at least one component in the sample;

the membrane being enclosed in a platform formed with sample application means and having top and bottom layers with hydrophilic surfaces fixed to each other through face to face contact of the bottom surface of the top layer and the top surface of the

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bottom layer to enclose and position the membrane, the surfaces in such face to face contact form a platform flow channel upstream of the membrane via provision of an indent in at least one of the hydrophilic surfaces, the platform flow channel is in fluid communication with the membrane to permit the liquid sample to flow in a continuous pathway from the application means to the distal end of the membrane.

7. (Currently amended) The device according to claim 6 wherein the platform flow channel has an indent in the bottom surface of the top layer.

8 and 9 : Withdrawn

10. (Currently amended) The device according to claim 6 further comprising a window in the top layer for observing the results of a reaction which takes place in the membrane.

11. (Currently amended) The device according to claim 6 wherein the membrane contains one or more reagent[s] for detecting one or more analyte[s].

12. (Currently amended) The device according to claim 11 wherein the analyte is selected from the group consisting of hCG, LH, PSA, Myoglobin, Troponin I, Troponin T, Creatinine Kinase MB, C Reactive Protein, ApoB 100 and Brain Natriuretic Peptide.

13. (Currently amended) The device according to claim 6 wherein the membrane contains the reagents for detecting Troponin I or Troponin T.

14, 15, 16, 17, 18, and 19 : Withdrawn

20. (Currently amended) A device for the rapid and efficient detection of one or more components in whole blood sample, the device containing an upstream detection membrane and a downstream capture membrane, the detection membrane constructed to filter substantially all of the red blood cells from the sample and containing a mobile labeled detecting reagent which will react with the one or more components to form a reaction product which moves downstream in the detection membrane;

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the capture membrane contains a fixed, immobile capture reagent which will react with and concentrate the reaction product at a capture line, a downstream end of the detection membrane slightly overlapping with an upstream end of the capture membrane;

the detection membrane and the capture membrane are enclosed in a platform with sample application means and having top and bottom layers with hydrophilic surfaces fixed to each other through face to face contact of the bottom surface of the top layer and the top surface of the bottom layer to enclose both detection membrane and capture membrane;

the hydrophilic surfaces in face to face contact form a platform flow channel upstream of the detection membrane via provision of an indent in at least one of the hydrophilic surfaces, the platform flow channel is in fluid communication with the upstream end of the detection membrane to permit the sample to flow in a continuous pathway from the application means through the detection membrane to a distal end of the capture membrane.

21. (Currently amended) The device according to claim 20 wherein the platform flow channel has an indent in the bottom surface of the top layer.

22 and 23 : Withdrawn

24. (Currently amended) The device according to claim 20 further comprising a window in the top layer for observation of the results of a reaction which takes place in the capture membrane.

25. (Currently amended) The device according to claim 20 wherein the detection membrane contains one or more reagent[s] for detecting one or more analyte[s].

26. (Currently amended) The device according to claim 25 wherein the analyte is selected from the group consisting of hCG, LH, PSA, Myoglobin, Troponin I, Creatinine Kinase MB, C Reactive Protein, ApoB 100 and Brain Natriuretic Peptide.

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27, 28, 29, 30, 31 and 32 : Withdrawn

33. (Currently amended) The device according to claim 20 wherein the detecting membrane is a glass fibre membrane and the capture membrane is a nitrocellulose membrane.

34. (Currently amended) The device according to claim 20 wherein the membranes are covered with a transparent cover layer.

35. (Currently amended) The device according to claim 34 wherein the cover layer is a polyester film.

36. (New) The platform of claim 1 or 20, wherein said top and bottom layers further comprise open areas to inhibit the flow of the sample from said platform flow channel into space between the surfaces of said top and bottom layers.

37. (New) The device of claim 6, wherein said top and bottom layers further comprise open areas to inhibit the flow of the sample from said platform flow channel into space between the surfaces of said top and bottom layers.

38. (New) The device of claim 1, wherein said bottom layer surface comprises further indents that mate with rectangular protrusions in said bottom surface of the top layer.

39. (New) The device of claim 1, wherein said top surface of the lower layer further comprises cylindrical pillars that register with cylindrical indents in said bottom surface of said layer.